## REMARKS

An Excess Claim Fee Payment Letter is submitted herewith to cover the cost of one excess total claim.

Claims 1-23 are all the claims presently pending in the application. Claims 1, 4, 10, 18 and 20 have been amended. Claim 23 has been added.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and <u>not</u> for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claim 4 stands rejected under 35 USC 112 second paragraph as being allegedly indefinite. Applicant notes that claim 4 has been amended to address the Examiner's concerns. In view of the foregoing, the Examiner is respectfully requested to withdraw this rejection.

Claims 1-7 and 10-21 stand rejected under 35 U.S.C. §102(b) as allegedly being unpatentable over Engle et al. (U. S. Patent No. 5,541,622). Claims 8-9 and 22 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Engle in view of the alleged admitted prior art (AAPA) (Application at page 1, line 13-page 3, line 13

These rejections are respectfully traversed in the following discussion.


## I. THE CLAIMED INVENTION

The claimed invention (e.g., as recited in claim 1) is directed to a controller for controlling a cursor, including an identifying module for identifying at least one of a first period when a cursor is in motion and a second period when the cursor is not in motion, and <u>a</u> <u>calibrating module for calibrating an input parameter signal by</u> **detecting a hands-off period** <u>using a first hands-off test during the first period and a second hands-off test, different than the first hands-off test, during the second period.</u>

Conventional cursor control systems attempt to detect cursor drift (e.g., due to temperature or other environmental changes) and remove it from the significant signal. To do

this, a hands-off period may be identified from the properties of the signal itself by setting a testing time for identifying the hands-off period to one compromise value.  However, cursor drift continues to be a nuisance  (Application at page 3, lines 4-12).

The claimed invention, on the other hand, includes <u>a calibrating module for calibrating an input parameter signal</u> **by detecting a hands-off period** <u>using a first hands-off test  during the first period and a second hands-off test, different than the first hands-off test, during the second period</u>.  This helps to allow the claimed invention to provide an improved control of cursor drift (Application at page 3, lines 17-21; page 9, line 20-page 10, line 9).

## II.   THE ALLEGED PRIOR ART REFERENCES

### A.   Engle

The Examiner alleges that Engle teaches the claimed invention of claims 1-7 and 10-21. Applicant submits, however, that there are features of the claimed invention which are neither taught nor suggested by Engle.

Engle discloses a miniature mouse joystick apparatus which includes an integrated switch means coupled to an actuator assembly for detecting presence of a user's fingertip contacting the actuator assembly (Engle at col. 13, lines 7-9).

However, Engle does not teach or suggest "*a calibrating module for calibrating an input parameter signal_**by detecting a hands-off period** using a first hands-off test during said first period and a second hands-off test, different than said first hands-off test, during said second period*", as recited, for example, in claim 1 and similarly recited in claims 10, 18 and 20.  As noted above, this helps to allow the claimed invention to provide an improved control of cursor drift (Application at page 3, lines 17-21; page 9, line 20-page 10, line 9).

Clearly, these features are not taught or suggested by Engle.

Indeed, the Examiner attempts to rely on col. 3, line 64 to col. 4, line 10 and col. 6, line 64 to col. 7, line 2 in Engle to support his position.  However, this is clearly unreasonable.

Indeed, as noted above, Engle simply discloses a miniature mouse joystick apparatus which includes an integrated switch means coupled to an actuator assembly for detecting

presence of a user's fingertip contacting the actuator assembly (Engle at col. 13, lines 7-9).

Indeed, Applicant would point out that the Examiner alleges on page 3 of the Office Action that Engle teaches that "*during a period of time in which a user is not touching the joystick, i.e., the cursor is not in motion, that the signal is calibrated such that the signals received are equivalent to zero force, i.e. no cursor movement*", and "*when it is determined that a user's hand is detected, i.e. the cursor is in motion, that the bias force information and the sensed force values are used together to control the movement of the cursor on the display*".

Applicant respectfully submits that the Examiner's allegation does not even address the claimed invention which includes <u>a calibrating module for calibrating an input parameter signal</u> **<u>by detecting a hands-off period</u>** <u>using a first hands-off test during the first period and a second hands-off test, different than the first hands-off test, during the second period</u>. Nowhere does Engle teach or suggest a test for detecting a hands-off period, let alone the first and second tests of the claimed invention.

In fact, the Examiner's comments like Engle's disclosure are unrelated to a test for detecting a hands-off period. Instead, the Examiner's allegation simply addresses how to proceed assuming that hands-off has been detected.

In short, Applicant would point out that the claimed invention may address a critical problem of isometric pointing devices: when is the stick being touched by the user's finger, and when is it <u>not</u> being touched ("hands off") so that its input signal value can be used for calibration.

Engle attempts to "solve" this problem <u>by using a switch embedded in the stick</u>. However, experience (in addition to common sense) has shown that this is <u>not</u> a satisfactory solution. Therefore, Engle is irrelevant to the claimed invention.

Also, Applicant would note that the Examiner's assumption that "hands off" is equivalent to "cursor in motion" is **patently incorrect**. Indeed, a user may touch the stick <u>without causing cursor motion</u>, and (in the claimed invention, but not necessarily in Engle's system) the cursor may move when the stick is untouched, due to an unavoidable failure of the calibration system

(e.g., the stick has been used continuously for an extended period during which thermal drift has changed the required calibration).

In fact, in contrast to the device in Engle, the claimed invention may provide an improvement on the solution used in the TrackPoint devices. In particular, the claimed invention may detect "hands off" by the absence of change in the sensor signal - a finger touching the sensor is unsteady and adds some variation (noise) to the signal, which can be detected. However, there is always some noise in the sensor signal, and fingers can be quite steady. The longer the detection period, during which the signal is examined for noise, the more reliable is the detection, but also the longer it takes to correct a false "hands off" detection. Further, the cursor may be drifting during this detection time, which is undesirable.

The claimed invention may use two detection periods, a very short period (e.g., about 0.5 sec) with tight bounds on noise, and a long period (e.g., about 5 sec) with a looser noise tolerance. During the short period, small corrections may generally be made which do not result in cursor movement but refine the calibration within a relatively large no-movement window, while during the longer period more significant corrections maybe made.

Therefore, Applicant respectfully submits that Engle clearly does not teach or suggest each and every feature of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.


**B.     AAPA**

The Examiner alleges that Engle would have been combined with the AAPA to form the invention of claims 8-9 and 22. Applicant submits, however, that these references would not have been combined and even if combined, the alleged combination would not teach or suggested each and every element of the claimed invention.

The AAPA discloses a conventional cursor control system which attempts to detect cursor drift (e.g., due to temperature or other environmental changes) and remove it from the significant signal. To do this, a hands-off period may be identified from the properties of the signal itself by setting a testing time for identifying the hands-off period to one compromise

value.  However, the AAPA teaches that **cursor drift continues to be a nuisance**  (Application at page 3, lines 4-12).

Applicant respectfully submits that these references would not have been combined as alleged by the Examiner. Indeed, these references are completely <u>unrelated</u>, and no person of ordinary skill in the art would have considered combining these disparate references, <u>absent impermissible hindsight</u>.

In fact, Applicant submits that <u>these references do not include any motivation or suggestion</u> to urge the combination as alleged by the Examiner. Indeed, these references clearly do not teach or suggest their combination.

Therefore, Applicant respectfully submits that one of ordinary skill in the art would not have been so motivated to combine the references as alleged by the Examiner. Therefore, the Examiner has <u>failed to make a prima facie case of obviousness</u>.

Moreover, Applicant submits that neither Engle, nor the AAPA, nor any alleged combination thereof, teaches or suggests suggest "*a calibrating module for calibrating an input parameter signal* **by detecting a hands-off period** *using a first hands-off test during said first period and a second hands-off test, different than said first hands-off test, during said second period*", as recited, for example, in claim 1 and similarly recited in claims 10, 18 and 20.  As noted above, this helps to allow the claimed invention to provide an improved control of cursor drift (Application at page 3, lines 17-21; page 9, line 20-page 10, line 9).

Clearly, the AAPA does not teach or suggest this feature.

Indeed, Applicant would <u>again</u> point out that the AAPA simply teaches **setting a testing time for identifying the hands-off period to one compromise value** (Application at page 3, lines 4-12).

The Examiner's assertions are completely unreasonable.  Nowhere does the AAPA teach or suggest **detecting a hands-off period using two different tests**.  Therefore, the AAPA certainly does not teach or suggest <u>calibrating an input parameter signal</u> **<u>by detecting a hands-off period</u>** <u>using a first hands-off test during the first period and a second hands-off test, different than the first hands-off test, during the second period.</u>

Therefore, Applicant submits that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

## III.    FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 1-23, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance.  The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a <u>telephonic or personal interview</u>.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Assignee's Deposit Account No. 50-0510.

Respectfully Submitted,

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